Scabies Protocol

Federal Bureau of Prisons
Clinical Practice Guidelines

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What's New in This Document?

The protocols for lice and scabies have been divided into two separate documents. The protocol for scabies has been substantially rewritten. As such, revisions to the previous 2011 version are not highlighted in yellow. The following changes have been incorporated:

Step-by-Step Procedure for Managing Scabies

- *Appendix 1*, *Scabies Management Checklist*, provides a detailed, step-by-step procedure for managing scabies in the correctional setting, including instruction regarding scabies treatment, infection control measures, and management of contacts.

Typical Scabies

- A presumptive scabies diagnosis is often rendered without microscopic verification and is based on the following: clinical suspicion, severe pruritus, typical distribution of lesions, and response to treatment. Given the consequences of scabies in the correctional setting and the minimal risks associated with treatment, presumptive treatment should be strongly considered if scabies is in the differential diagnosis.
- Routine retreatment of scabies with permethrin is recommended 7 days after initial treatment.
- Direct observation of application of permethrin is emphasized to assure complete skin coverage.
- Lindane is no longer recommended for treating scabies.
- It is emphasized that laundry—to include linens, clothing, and towels—must occur simultaneously with treatment.
- Inmates with scabies should be isolated in a single cell until 24 hours after treatment.
- Close contacts of typical scabies (those with skin-to-skin contact, cellmates, and those who have had contact with bed linens/clothing/towels) should be presumptively treated with permethrin at the same time as the case and again in 7 days. Their linens, towels, and clothes should be washed simultaneously with both treatments.

Crusted Scabies

- Treatment with oral ivermectin, in addition to permethrin, is routinely recommended for crusted (Norwegian) scabies. Treat with a second dose of ivermectin and permethrin 7 days after the initial treatment.
- Isolation for crusted scabies is continued for at least 7 days—until after the second treatment ***and*** until after resolution of scabies-related skin lesions (i.e., burrows, new bumpy rashes, scales, crusts, and excoriations). Inmates with crusted scabies shall be provided with clean linens and clothing each day while isolated (in order to remove contaminated skin crusts and scales that contain many mites).
- A wider circle of contacts should be evaluated and considered for presumptive treatment for crusted scabies.
- Asymptomatic contacts of inmates with crusted scabies should be treated a second time—7 days after the initial treatment, with linens, towels and cloths washed simultaneously with both treatments.

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1. Purpose

The purpose of this *Scabies Protocol* is to provide recommended procedures for detection, diagnosis, treatment, and prevention of scabies in the correctional setting.

2. Causative Agent

Scabies is a parasitic infection of the skin. It is caused by the mite, *Sarcoptes scabiei var. hominis.* Averaging 0.3 x 0.35 mm, female scabies mites cannot be seen with the naked eye. This round, eight-legged mite burrows into the host's superficial skin, laying 1–3 eggs per day during its 30–60 day lifetime. On average, a typical patient harbors 12 mites at a time. Host sensitization to the scabies mite, eggs, and excreta develops over 2–6 weeks.

Crusted scabies, also known as Norwegian scabies, is an aggressive infestation of *Sarcoptes scabiei var. hominis*. Due to host immunodeficiency, malnourishment, and/or debilitation, thousands of mites are present in the patient's skin.

In a healthy patient, the mite can survive up to 3 days off the host. In contrast, mites in crusted scabies can survive up to 7 days off the host.

3. Clinical Presentation

Typical Infestation: After acquiring the scabies mite, a patient (without prior infestation) typically develops pruritus after 2–6 weeks. Previously exposed patients develop pruritus within 24–48 hours of re-infestation.

Typical lesions are symmetrically distributed on the hands (especially the interdigital spaces), wrists, elbows, waist, legs, and feet. In men, lesions are frequently around the belt line, thigh, and external genitalia. In women, they are often located on the areola, nipples, buttocks, and vulvar areas.

Burrows can be observed at these sites; however, many patients will not have observable burrows. Burrows appear as 1–10 mm, flesh-colored to erythematous, wavy, raised, and thread-like lines on the skin surface. Excoriations are commonly found at these sites and may be the only clinical findings. The mites may be found under the distal fingernails secondary to scratching. Pruritus is worse at night and after a hot shower or bath. Lesions can become secondarily infected and present as pustules or cellulitis.

Crusted Scabies: The usual crusted scabies patient is bedridden or with severe disability or immunosuppression. Pruritus is not present or is a minor concern. The lesions are commonly found on the hands and extremities, but can be located anywhere on the body. Unlike a typical scabies infestation, crusted scabies can involve the face and scalp. The lesions are thickened, scaly crusts that may encompass a large body surface area. Due to the patient's decreased immunity, impaired sensation, and/or physical inability to scratch, the scabies mites number in the thousands.

4. Diagnosis

➔ *All inmates should be screened at intake for signs and symptoms of scabies.*

The rendering of a presumptive scabies diagnosis is often based on the following: clinical suspicion, severe pruritus, typical distribution of lesions, and response to treatment.

If available, microscopic examination of mineral oil preparations can identify the mite. This is accomplished by applying mineral oil and gently scraping the suspected lesions with a #15 surgical blade. The collected skin debris is placed on a microscope slide with a coverslip and examined under low power. Identification of the mites confirms the diagnosis, while the eggs or scybala (fecal pellets) provide indirect confirmation. A skin biopsy is rarely helpful in diagnosing scabies, but may be considered in unusual cases.

Given the consequences of scabies in the correctional setting and the minimal risks associated with treatment, presumptive treatment should be strongly considered if scabies is in the differential diagnosis.

5. Mode of Transmission

Typical Scabies Infestation: Direct skin-to-skin contact is needed for transmission, and 15–20 minutes of skin-to-skin contact is generally required. Overcrowding and sexual contact increases transmission. Sharing of clothing or bedding and towels can transmit the mite—especially if used immediately after the infested person. Asymptomatic patients, or patients with minimal symptoms, can unknowingly transmit mites.

Crusted Scabies: In contrast to typical scabies infestations, persons with crusted scabies are highly contagious because of the large number of mites, skin sloughing, and increased mite survival. With crusted scabies, there is a much higher risk of transmission of scabies from contaminated clothing, bedding, and towels. Close contacts and staff taking care of patients with crusted scabies are at higher risk of acquiring scabies than in the case of a typical scabies infestation.

6. Infectious Period

Scabies remains communicable until all mites and eggs are eradicated from the host. In the absence of treatment, individuals can remain infectious for prolonged periods. Fomites can be a source of infection because the mites can live up to 3 days off the host (up to 7 days, in the case of crusted scabies).

7. Treatment

A general overview of treatment considerations is provided below.

➔ Consult *Appendix 1, Scabies Management Checklist,* for detailed, step-by-step instruction on management of scabies in the correctional setting, including treatment of cases, infection control measures, and management of contacts.

Typical Scabies Infestation

Inmates with a typical infestation of scabies should be isolated in a single cell until 24 hours after treatment. Topical permethrin 5% cream is a highly efficacious, FDA-approved scabicide that should be applied contiguously from the neck to the toes. Clothing, linens, and towels should be washed at the same time that treatment is applied, in order to prevent reinfection. After leaving the medication on the body for 8–14 hours, the inmate should be allowed to shower off the cream and put on clean clothes. Two separate applications, 7 days apart, are recommended—with clothing, linens, and towels cleaned in the same time-frame as treatment.

➔ *The most common cause of treatment failure is the failure to adequately apply the scabicide. Therefore, it is emphasized that the patient's application of the scabicide should be directly observed.*

Most patients have significant improvement within 3 days of treatment. Inmates treated for scabies should be advised that the rash and itching may persist for 2–4 weeks, and that antipruritic medications may help minimize this discomfort.

Symptoms or signs of scabies that persist beyond 2 weeks can be attributed to several factors:

- Misapplication of scabicide
- Reinfection from other inmates, which may be evidenced by new burrows
- Exposure to infested fomites (clothing or bed linens)
- Host allergic dermatitis

The health care provider may consider an alternative diagnosis if an inmate is still symptomatic after two completed treatments.

Crusted (Norwegian) Scabies

Any case of crusted scabies requires aggressive treatment, infection control measures, and long-term surveillance. Because crusted scabies is highly communicable, strict isolation and contact precautions are critical. *Limit the number of staff coming into contact with the inmate.*

A treatment regimen of permethrin should be initiated, including application of the cream to the face and scalp. In addition, oral ivermectin is strongly recommended for treatment of crusted scabies. It is administered as a single dose, with a repeat dose of both permethrin and ivermectin in 7 days (see *Table 1* below). Isolation is continued for at least 7 days—until after the second treatment *and* until after resolution of scabies-related skin lesions (i.e., burrows, new bumpy rashes, scales, crusts, and excoriations). Inmates with crusted scabies shall be provided with clean linens and clothing each day while isolated (in order to remove contaminated skin crusts and scales that contain many mites).

Treatment Regimens for Scabies

Table 1 and *Table 2* below outline the regimens for treatment of scabies.

Table 1. Topical Treatment Regimen for Scabies	
Treatment	***Permethrin Cream (5%)***
Brand Names	Elimite® and Acticin®
Description	Permethrin is an insecticide cream that is considered safe and effective. ***Note:*** *Permethrin has a high alcohol content, posing a flammability risk and potential for diversion.*
Treatment Guidelines	• ***For typical scabies infestation****,* cream should be applied to all areas of the body from the neck down, and washed off after 8–14 hours. The cream should be ordered to be repeated in 7 days. Application of scabicide should be directly observed. • ***In the case of crusted scabies****,* application should include the face and scalp and be repeated in 7 days. • It is generally recommended that pregnant women with scabies be treated with permethrin. • ***Contacts of both typical and crusted scabies*** are presumptively treated with a second dose 7 days after the initial dose. ***Note:*** *Permethrin products utilized for lice come in a lower (1%) concentration.*

Table 2. Alternative Treatment Regimen for Scabies	
Treatment	***Oral Ivermectin***
WARNINGS →	• Ivermectin is an anthelmintic agent that has been used extensively and safely in the treatment of other parasitic infections, but the U.S. Food and Drug Administration has not approved the drug for the treatment of scabies infection. • *Ivermectin as a treatment for scabies is to be utilized only in consultation with the Central Office.*
Brand Name	Stromectol® (available in 3 mg tablets)
Description	Oral ivermectin is an effective alternative to topical agents for scabies treatment. It may be particularly useful in patients who are immunocompromised or after failure of topical therapy. Oral dosing may be more convenient in institutional outbreaks and with mentally impaired patients. ***Note:*** *Oral ivermectin is highly recommended in the treatment of crusted scabies, as an adjunct to topical therapy with permethrin.*
Dosage Form	• Ivermectin is available in 3 mg tablets. • The dose is based upon weight (200 micrograms per kg): 36–50 kg (79-111 lbs) = 3 tabs (9 mg) 51–65 kg (112-145 lbs) = 4 tabs (12 mg) 66–79 kg (146-174 lbs) = 5 tabs (15 mg) 80+ kg (175 + lbs) = 6 tabs (18 mg)
Treatment Guidelines	• Ivermectin is administered orally as a single dose, with a repeat dose in 7 days. • Ivermectin administration must be directly observed. • In large institutional outbreaks, ivermectin can be considered for use with contacts only with Central Office approval. If ivermectin is used to treat contacts, they should be administered a second dose of oral ivermectin 7 days after the initial dose.

8. Contact Investigation

➔ *Prompt contact investigation is indicated whenever a scabies case is diagnosed.*

In the case of typical scabies, close contacts include any individual who has had skin-to-skin contact, cellmates, or those with potential exposure to the inmate's clothing, linens, or towels. The inmate with scabies should be interviewed to identify anyone who may be a contact. In addition, an on-site visit to the housing unit should be made to assess the potential for transmission and to identify additional potential contacts. In general, all cell mates are considered close contacts. In dormitory-type settings, close contacts include those who had exposure to the inmate's bedding or clothing.

- ➔ All inmates who are identified as close contacts should be screened for scabies symptoms.
- ➔ Those who are symptomatic should be isolated and treated. Asymptomatic contacts do not need to be isolated.
- ➔ Asymptomatic close contacts should be presumptively treated for scabies. This is because symptoms can take 2–6 weeks after a person is infested to appear, but scabies can be transmitted during this asymptomatic period. Contacts should be retreated in 7 days.
- ➔ To avoid reinfection, the treatment of cases and contacts must be carefully coordinated so that all are treated within the same time period.
- ➔ Linens, towels, and clothing of contacts should be laundered simultaneously with both treatments.

Special Considerations with Crusted Scabies

Crusted scabies is much more communicable than typical scabies infestations. Because it is so highly transmissible, crusted scabies requires rapid and aggressive detection, diagnosis, infection control, and treatment measures to prevent and control spread. Therefore, a wider circle of contacts should be evaluated and considered for presumptive treatment.

- ➔ All cellmates and other persons who may have been exposed to a patient with crusted scabies—or their clothing, bedding, or towels—should be identified and treated.
- ➔ Asymptomatic contacts of inmates with crusted scabies do not need to be isolated.
- ➔ Treatment should be strongly considered even in equivocal circumstances, because of the complexity of controlling an institutional outbreak and the low risk associated with treatment.
- ➔ Asymptomatic contacts to crusted scabies should be treated again, 7 days after the initial treatment.
- ➔ All suspected and confirmed cases, as well as all potentially exposed persons, should be treated at the same time to prevent re-exposure.
- ➔ Linens, towels, and clothing of contacts should be laundered simultaneously with both treatments.

Outbreak Investigation

A scabies outbreak suggests that transmission has been occurring within the institution for several weeks to months—thereby increasing the likelihood that infested inmates may have had time to spread scabies elsewhere in the facility and to other facilities. Measures to control scabies in an institution depend on factors such as how many cases are diagnosed or suspected, how long infested persons have been at the institution while undiagnosed or unsuccessfully treated, whether cases are from a single or multiple housing units, and whether any of the cases are crusted (Norwegian) scabies.

➔ *The Regional/Central Office should be consulted regarding scabies outbreak management.*

During an outbreak, all health care workers in the facility should be educated regarding scabies diagnosis, treatment, and infection control measures. *Appendix 1, Scabies Management Checklist*, can be a useful educational tool. *When there are multiple cases of scabies, control measures include heightened surveillance for early detection of new cases.* It may be necessary to conduct a mass screening, including interviews and visual inspection of large groups of potential inmate contacts, together with simultaneous treatment.

In addition, the following should be emphasized:

- Proper use of infection control measures when handling patients or their clothing or bedding (e.g., avoiding direct skin-to-skin contact, handwashing, etc.)
- Confirmation of the diagnosis of scabies
- Early and complete treatment, and follow-up of cases
- Prophylactic treatment of persons identified as close contacts
- In addition to the laundering of clothing and bedding simultaneous with treatment, unwashed items that contact skin (i.e., headphones with foam ear covers, baseball caps) should be bagged for 7 days.
- If inmate contacts have left for other BOP facilities or halfway houses during the outbreak, notifications to those facilities should be coordinated with the Regional/Central Office.

➔ *Long-term surveillance for scabies is imperative to the eradication of scabies from an institution.*

9. Reporting

The following should be reported utilizing the BP-A0664, Infectious Disease/Outbreak Report:

- Two or more epidemiologically linked cases of scabies
- An unusual number of cases
- Cases occurring over a prolonged period
- *Any* case of crusted scabies

In the event of a scabies outbreak, consultation with the Regional or Central Office is recommended to review the situation on a case-by-case basis.

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Appendix 1. Scabies Management Checklist

Below is a detailed 2-page checklist for scabies management. ◆ While the steps below are numbered, this is not meant to imply that the steps need to be followed in exactly this order. ◆ Cases and close contacts should be treated in the same time frame to avoid reinfection. ◆ The procedures for laundry and environmental cleaning should be performed in the same time frame as other treatment measures.

Note: *Crusted (Norwegian) scabies requires additional measures, which are noted below in italics.*

1. Provider diagnoses scabies and prescribes scabicide.

	a.	**Notify Infection Prevention and Control (IP&C) staff.**
	b.	**IP&C staff identifies unit where the scabies case is housed.**

2. Make notifications about scabies case and provide education.

	a.	**Notify correctional leadership.**
	b.	**Notify unit staff.**
	c.	**Notify laundry staff and instruct them regarding the following:** • Laundry from a scabies case should not be sorted; it should be placed directly into the washing machine, avoiding contact with it. • Gloves should be worn, and hands are washed after the gloves are removed. • Wash laundry in hot water and use the hot dryer cycle. If hot water is unavailable, then laundry should be handled in accordance with *Step 4c* (below).

3. Isolate and treat the scabies case.

	a.	**Isolate the case in a single cell.** • Staff shall wear gloves for any contact with the inmate. ***Note:*** *With crusted scabies, staff shall also wear a disposable gown.* • Hands are washed after the gloves are removed. • Hold soiled linen away from the body. • Restrict the inmate from work or visits while isolated.
	b.	**Provide the inmate with education about scabies treatment.** • Provide education outlined in *Appendix 2, Inmate Fact Sheet on Scabies*. • Instruct the inmate regarding plans for applying permethrin cream (see *Step 3e* below); advise inmate that they will shower 8–14 hours afterwards. • Advise inmate to reapply cream if their hands or another part of the body is washed. • Advise inmate that rash and itching may persist for 2–4 weeks after treatment. • Advise inmate that they will be treated again in 7 days (isolation between treatments is not required).
	c.	**Instruct the inmate to bathe and dry off completely.**
	d.	**Trim the inmate's fingernails.**
	e.	**Apply permethrin 5% cream.** ➔ **The most common reason for scabies treatment failure is inadequate application of permethrin.** • Health care staff must directly observe application of permethrin and shall assist with application of cream in locations that the inmate cannot reach. • Assure that the cream is applied to every square inch of the skin from the neck to the toes, including: between the fingers, under the fingernails, in the armpits, under the breasts, between the buttocks, in the umbilicus, in the genitalia/perianal areas, in between the toes, and on the soles of feet. • The face and scalp are not usually treated with permethrin for typical scabies infestations. ***Note:*** *For crusted scabies, the face and scalp should also be treated. .* • About half of a 60-gram tube (30-grams) is required to treat an average-size person. • Leave a small amount of permethrin with the inmate in a labeled cup so that the inmate can reapply permethrin after washing hands or another part of the body. • ***Note:*** *Crusted scabies is treated with oral Ivermectin (see Table 2) in addition to permethrin.*
	f.	**Provide the inmate with clean clothes and linens.** • Bag the used linen/clothing in a plastic/impervious bag labeled "Scabies." ***Note:*** *For crusted scabies, inmates shall be provided with clean linens and clothing* ***each day*** *while isolated (in order to remove contaminated skin crusts and scales that contain many mites).*

	g.	**Inmate showers 8–14 hours after permethrin is applied.**
	h.	**Provide the inmate with clean clothes and linens for use after the shower.**
	i.	**Discontinue isolation 24 hours after treatment initiation.** ***Note:*** *With crusted scabies, the inmate remains in isolation for a minimum of 7 days. Isolation is continued until after the second treatment* ***and*** *until all scabies-related skin lesions (i.e., burrows, new bumpy rashes, scales, crusts, and excoriations) have resolved.*
	j.	**Schedule retreatment with permethrin 7 days after the initial treatment.** • Directly observe retreatment (per *Step 3e* above). • There is no need to isolate the inmate for the retreatment. • Educate the inmate to shower 8–14 hours after cream application. • Educate the inmate to change into clean clothes and obtain clean linen after showering.
4. Manage contaminated items and clean the area where inmate with scabies is housed.		
		• Anyone handling linen or clothing of a scabies case or cleaning the cell shall wear gloves. • Keep soiled linen away from the body. • Hands should be washed after removing gloves. • ***Note:*** *With crusted scabies, staff should also wear a disposable gown.*
	a.	**Bag all linen & towels in a plastic or impervious bag labeled "Scabies."**
	b.	**Bag personal clothing in a labeled mesh bag, and then in a plastic or impervious bag labeled "Scabies."**
	c.	**Place personal property that cannot be laundered in a sealed plastic bag.** Any personal items that may have touched the inmate's skin and cannot be laundered shall be placed in a sealed plastic bag for 7 days. Label bag with inmate's name, registration number, and the date sealed.
	d.	**Discard all lotions, creams, or ointments.** If these items were used prior to treatment, they should be discarded because they may be contaminated.
	e.	**Disinfect or replace the mattress.** • Vinyl mattress: Wipe off with EPA-approved disinfectant. • Cloth mattress and pillow: Inmate must be issued replacements. They can be reused if placed in a sealed plastic bag for 7 days.
	f.	**Clean inmate's cell/bunk with general cleaner and disinfectant.** Fumigation is NOT necessary.
5. Conduct contact investigation; presumptively treat contacts.		
	a.	**Interview scabies case to identify close contacts.** Close contacts include any inmate who has had skin-to-skin contact or potential exposure to the inmate's clothing, bedding, or towels.
	b.	**Visit housing unit to identify close contacts.** In general, all cell mates are considered close contacts. In dormitory-type settings, close contacts would be those who had exposure to the inmate's bedding, towels, or clothing. ***Note:*** *Crusted scabies is much more infectious than typical scabies. A wider circle of contacts should be evaluated and considered for presumptive treatment. Consult with Regional and/or Central Office.*
	c.	**Examine all identified close contacts for evidence of scabies.** If scabies is suspected, then isolate and treat per *Step 3* above.

	d.	**Presumptively treat asymptomatic close contacts with permethrin.**
		• Isolation is not required for asymptomatic close contacts.
		• Directly observe treatment (per *Step 3e* above).
		  ○ Launder bedding, towels, and clothing at the same time.
		  ○ Educate inmate to change into clean clothes and use clean linens after showering.
		• Directly observe retreatment of contacts 7 days later. Launder bedding, towels, and clothing at the same time.

6. Observe for new cases of scabies.		
	a.	**Alert clinicians to suspect scabies with presentation of itching or rash.**
	b.	**Remind clinicians to report suspected scabies cases to the IP&C staff.**

Appendix 1. Scabies Management Checklist (page 2 of 2)

Appendix 2. Inmate Fact Sheet on Scabies

What is scabies?

Scabies is a skin infestation with mites (insects) so tiny that they cannot be seen with the naked eye. The mites create tunnels or burrows under the skin, causing intense itching. Often the burrows can be found on or near the webs of the fingers, the inside of the wrist, the nipples (especially women), the waist, and the male sexual organs.

How is scabies spread?

Scabies is spread with any close skin-to-skin contact, especially through sexual contact. Tell your health care provider about anybody who has been in any kind of close contact with you. These people may also need scabies treatment. Scabies can also be spread through contact with the infested person's clothes, bedding, or towels.

How will I be treated for scabies?

1. Carefully place your bed linens, blankets, and towels, and any clothing you may have worn or touched into a plastic bag given to you so that they can be properly decontaminated. Remove any rings, bracelets, or watches.
2. Clip your fingernails and toenails, to make sure there are no mites under your nails.
3. Take a lukewarm (not hot) shower, and dry off well with a clean towel. Place that towel in the plastic bag given to you.
4. Apply the medication cream in a thin, even layer over your *entire* body, from your neckline down—including your feet and behind your ears. *Avoid getting the cream in your eyes, nose, or mouth.*
5. Pay special attention to getting cream on your hands (between the fingers and under the nails), between all skin folds, in the navel, on the chest, under the breasts, on the entire genital area, between the buttocks, and all over the feet (including the soles and in between the toes). Avoid getting the cream in your eyes or inside the rectum or (in females) the vagina.
6. Put on clean clothes that are given to you and use clean sheets, blanket, and towels.
7. Leave the cream on for 8–14 hours (usually overnight). If any cream comes off during this time (for example, while washing your hands), then reapply the cream.
8. After 8–14 hours, take a shower and *completely* wash off the cream. Again, put on clean clothes given to you and use clean sheets and towels.

Note: *After the treatment, you may initially experience increased itching and continue to itch for 2–4 weeks or longer. However, this does not usually mean that you are still infested. Ask your health care provider for something to help with the itching.* ***Do not scratch!***

How long do I need to be housed separately?

Usually, you must be housed without physical contact with others until 24 hours after your treatment is started. During that time, you cannot leave your room, not even to work.

How should my clothes, bed linens, and blankets be handled?

If possible, your towels, sheets, blankets, and worn clothes should be machine washed in hot water and then dried on the hot cycle. Other items (for example, hats and head phones) should be placed in a sealed plastic bag for at least 7 days. The mattress, pillows, bedside equipment, and floors should be completely cleaned with a routine disinfectant. Throw away any used lotions, creams, or ointments because they may have become contaminated.

When should I see my health care provider for follow-up?

You must be re-treated by your health care provider 7 days after the initial treatment. After that second treatment, all linen and clothing should be changed again and placed in a plastic bag for laundering. If any new rashes or skin burrows appear after the second treatment, report this to the health care staff as soon as possible.